

AMENDMENTS TO THE CLAIMS

The following is a complete, marked up listing of revised claims with a status identifier in parentheses, underlined text indicating insertions, and strikethrough and/or double brackets indicating deletions.

Listing of the Claims:

1. (Currently Amended) A friction stir welding method according to which workpieces to be welded are positioned on a work-table and by means of clamping device clamped to one another and/or to the work-table and according to which a rotating welding means is arranged to move along a joint between the workpieces while being pressed against said workpieces during the welding, wherein additional heat is supplied to the joint prior to and/or during the welding operation, in excess of the frictional heat generated in the joint from the rotation of the welding means and of any other heat that may be supplied to the joint in any other manner by the welding means, further wherein the joint is supported by a subjacent backing device which is preheated to a temperature in excess of 100°C.

2. (Original) A method as claimed in claim 1, wherein pre-heating the joint to a maximum of 250°C below the fusion temperature of the material of the joint.

3. (Previously Presented) A friction stir welding method according to which workpieces to be welded are positioned on a work-table and by means of clamping device clamped to one another and/or to the work-table and according to which a rotating welding means is arranged to move along a joint between the workpieces while being pressed against said workpieces during the welding, wherein additional heat is supplied to the joint prior to and/or during the welding operation, in excess of the frictional heat generated in the joint from the rotation of the welding means and of any other heat that may be

supplied to the joint in any other manner by the welding means, and the joint is heated by a heating element positioned underneath the joint.

4. (Cancelled)

5. (Currently Amended) A method as claimed in claim 4~~1~~, wherein the backing device is heated to a temperature in the range of 150-250°C.

6. (Currently Amended) A method as claimed in claim 4~~1~~, wherein the backing device is heated to a temperature in the range of 500-1000°C.

7. (Previously Presented) A method as claimed in claim 6, wherein the backing device is heated by a heating coil built into the backing device.

8. (Currently Amended) An apparatus for friction stir welding, comprising:

a work-table supporting workpieces to be welded;

at least one clamping device for clamping the workpieces to one another and/or to the work-table;~~and~~

a welding means adapted to be advanced along a joint between the workpieces while being pressed against said workpieces during the welding, wherein a backing device is positioned underneath the joint; and

a heating element for supply of additional heat to the joint prior to and/or during the welding operation, in excess of the frictional heat generated in the joint from the rotation of the welding means and of any other heat that may be supplied to the joint in any other manner by the welding means.

9. (Previously Presented) An apparatus for friction stir welding, comprising a work-table supporting workpieces to be welded, at least one clamping device for clamping the workpieces to one another and/or to the work-table, a welding means adapted to be advanced along a joint between the workpieces while being pressed against said workpieces during the welding

and, the apparatus comprises a heating element positioned underneath the joint for supply of additional heat to the joint prior to and/or during the welding operation, in excess of the frictional heat generated in the joint from the rotation of the welding means and of any other heat that may be supplied to the joint in any other manner by the welding means.

10. (Cancelled)

11. (Previously Presented) An apparatus as claimed in claim 10, wherein the backing device is adapted to be heated by the heating element.

12. (Previously Presented) An apparatus as claimed in claim 11, wherein the heating element is a heating coil built into the backing device.

13. (Previously Presented) A method as claimed in claim 3, further comprising the step of pre-heating the joint to a maximum of 250°C below the fusion temperature of the material of the joint.

14. (Previously Presented) A method as claimed in claim 13, wherein the joint is supported by a subjacent backing device which is preheated to a temperature in excess of 100°C.

15. (Previously Presented) A friction stir welding method according to which workpieces to be welded are positioned on a work-table and by means of clamping device clamped to one another and/or to the work-table and according to which a rotating welding means is arranged to move along a joint between the workpieces while being pressed against said workpieces during the welding, wherein additional heat is supplied to the joint prior to and/or during the welding operation, in excess of the frictional heat generated in the joint from the rotation of the welding means and of any other heat that may be supplied to the joint in any other manner by the welding means, and the joint

is supported by a subjacent backing device which is preheated to a temperature in excess of 100°C.

16. (Previously Presented) A method as claimed in claim 15, wherein the backing device is heated to a temperature in the range of 150-250°C.

17. (Previously Presented) A method as claimed in claim 15, wherein the backing device is heated to a temperature in the range of 500-1000°C.

18. (Previously Presented) A method as claimed in claim 15, wherein the backing device is heated by a heating coil built into the backing device.

19. (Previously Presented) An apparatus as claimed in claim 9, wherein a backing device positioned underneath the joint.

20. (Previously Presented) An apparatus as claimed in claim 19, wherein the backing device is adapted to be heated by the heating element.

21. (Previously Presented) An apparatus as claimed in claim 20, wherein the heating element is a heating coil built into the backing device.

22. (Previously Presented) A friction stir welding method according to which workpieces to be welded are positioned on a work-table and by means of clamping device clamped to one another and/or to the work-table and according to which the start of the welding operation is initiated by inserting a rotating welding means into a joint and then moving said welding means along the joint between the workpieces while pressing said welding means against said workpieces during the welding, wherein additional heat is supplied to the joint in excess of the frictional heat generated in the joint from the rotation of the welding means and of any other heat that may be supplied to the joint in any other manner by the welding means and wherein said additional heat is

supplied by a heating element capable of supplying heat to the joint prior to and during the welding operation.

23. (Previously Presented) A method as claimed in claim 22 wherein the joint is pre-heated to a maximum of 250°C below the fusion temperature of the material of the joint.

24. (Previously Presented) A method as claimed in claim 22 wherein the joint is heated by a heating element positioned underneath the joint.

25. (Previously Presented) A method as claimed in claim 23 wherein the joint is heated by a heating element positioned underneath the joint.

26. (Previously Presented) A method as claimed in claim 22 wherein the joint is supported by a subjacent backing device which is preheated to a temperature in excess of 100°C.

27. (Previously Presented) A method as claimed in claim 26, wherein the backing device is heated to a temperature in the range of 150-250°C.

28. (Previously Presented) A method as claimed in claim 26, wherein the backing device is heated to a temperature in the range of 500-1000°C.

29. (Previously Presented) A method as claimed in claim 26, wherein the backing device is heated by a heating coil built into the backing device.

30. (Previously Presented) A method as claimed in claim 27, wherein the backing device is heated by a heating coil built into the backing device.

31. (Previously Presented) A method as claimed in claim 28, wherein the backing device is heated by a heating coil built into the backing device.

32. (Previously Presented) An apparatus for friction stir welding, comprising a work-table supporting workpieces to be welded, at least one clamping device for clamping the workpieces to one another and/or to the work-table, and a welding means adapted to be advanced along a joint between the workpieces while being pressed against said workpieces during the welding, said apparatus further comprising a heating element capable of supplying additional heat to the joint at any time prior to and during the welding operation, in excess of the frictional heat generated in the joint from the rotation of the welding means and of any other heat that may be supplied to the joint in any other manner by the welding means and wherein the start of the welding operation is considered to be the instant when the welding probe is inserted into the joint.

33. (Previously Presented) An apparatus as claimed in claim 32 further wherein the heating element is positioned underneath the joint.

34. (Previously Presented) An apparatus as claimed in claim 32 wherein a backing device is positioned underneath the joint.

35. (Previously Presented) An apparatus as claimed in claim 32, wherein the backing device is adapted to be heated by the heating element.

36. (Previously Presented) An apparatus as claimed in claim 35, wherein the heating element is a heating coil built into the backing device.

37. (Previously Presented) An apparatus as claimed in claim 32 wherein the heating element is adapted to heat the joint to a maximum of 250°C below the fusion temperature of the material of the joint.

38. (Cancelled)

39. (Cancelled)